



# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,255	10/25/2001	Sean P. Colgan	B0801/7233	5204

7590 02/14/2005

Elizabeth R. Plumer  
Wolf, Greenfield & Sacks, P.C.  
Federal Reserve Plaza  
600 Atlantic Avenue  
Boston, MA 02210

EXAMINER

YU, MISOOK

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/007,255

Applicant(s)

COLGAN, SEAN P.

Examiner

MISOOK YU, Ph.D.

Art Unit

1642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/30/02, 2/3/03, 3/20/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Exhibit A (seq. alignment, 3 pages).

### **DETAILED ACTION**

Applicant's election of group IV with species of SEQ ID NO:9 in the reply filed on 1101/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 14, and 15 are pending and examined on merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is "undue" include, but are not limited to: 1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability in the art, 5) existence of working examples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

This rejection is made because claim 15 recites “pharmaceutical” comprising SEQ ID NO:9 nucleic acid. The specification at pages 40-42 discloses *mdr1* antisense. However, the specification does not teach how to use nucleic acid comprising instant SEQ ID NO:9 as pharmaceutical. The specification does not provide a sufficient amount of guidance, direction, or exemplification to enable the skilled artisan to make or use a pharmaceutical comprising the instant SEQ ID NO:9

The art of gene therapy, i.e., the *in vivo* delivery genetic information to targeted cells within a body using naked DNA or viral vectors or by reintroducing *ex vivo* modified host cells into the body, is still in its infancy. Moreover, the art is highly unpredictable and its successful application has been hindered by numerous limitations, which the specification does not remedy and would preclude the skilled artisan from having a reasonable expectation of successfully making and using the claimed invention without need of performing an undue amount of experimentation. For example, the teachings of the specification have not overcome the problems with *in vivo* delivery and expression. Verma et al. (*Nature* 1997, **389**: 239-242) teach that the ongoing problem is the inability to deliver genes efficiently and to obtain sustained expression. Izquierdo (2004, *Cancer Therapy*, 1-11) also teaches that “the ability to deliver efficiently sufficient amounts of siRNA” to a particular site is the problem that faces the iRNA art (note the last paragraph at page 8). The art recognizes that gene therapy is not a trivial matter. The specification does not teach any method of overcoming technical difficulties the art has been facing with the gene therapy. Thus, based on the state of art, one of skill in the art would have a reason to doubt the efficacy of the claimed pharmaceutical.

Considering the unpredictable state of art, limited guidance, no examples in the specification how to use the instantly claimed invention as a pharmaceutical, it is concluded that undue experimentation is required to practice the invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by either US Pat. 5,968,735 (Oct. 19, 1999).

Claims 14, and 15 are interpreted as drawn to an isolated comprising SEQ ID NO:9 (the elected species).

US Pat. 5,968,735 teaches an isolated nucleic acid comprising instant SEQ ID NO:9, i.e. SEQ ID NO:1-4. Note the attached sequence alignment (Exhibit A) showing that instant SEQ ID NO:9 matches 100% to 24 nucleotides within SEQ ID NOs 1-4 of US Pat. 5,968,735. Since instant claims are construed using the open transitional phrase "comprising" as to the scope of the unrecited part of the claimed nucleic acid, the instant claims read on SEQ ID NOs 1-4 of US Pat. 5,968,735. Note that the phrase "the group consisting of" is a Markush language indicating an alternate choice.

As to the preamble "pharmaceutical" in claim 15, the preamble is not given patentable weight for purposes of comparing the claim with the prior art. The claim reads on the nucleic acid per se.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MISOOK YU, Ph.D. whose telephone number is 571-272-0839. The examiner can normally be reached on 8 A.M. to 5:30 P.M., every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MISOOK YU, Ph.D.  
Examiner  
Art Unit 1642

  
MISOOK YU  
PATENT EXAMINER

EXHIBIT A  
1 of 3

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: February 9, 2005, 13:42:01 ; Search time 75.4483 Seconds  
(without alignments)  
520.498 Million cell updates/sec

Title: US-10-007-255-9  
Perfect score: 24  
Sequence: 1 ctatagtagacacgctcttcaag 24

Scoring table: IDENTITY\_NUC  
Gapop 10.0, Gapext 1.0

Searched: 1202784 seqs, 818138359 residues  
Total number of hits satisfying chosen parameters: 2405568

Minimum DB seq length: 0  
Maximum DB seq length: 200000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database: Issued Patents NA:  
1: /cgn2\_6/ptodata/1/ina/5A COMB.seq.\*  
2: /cgn2\_6/ptodata/1/ina/5B COMB.seq.\*  
3: /cgn2\_6/ptodata/1/ina/6A COMB.seq.\*  
4: /cgn2\_6/ptodata/1/ina/6B COMB.seq.\*  
5: /cgn2\_6/ptodata/1/ina/PCTUS COMB.seq.\*  
6: /cgn2\_6/ptodata/1/ina/backfile1.seq.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	24	100.0	568	2	US-08-439-814-4
2	24	100.0	1318	2	US-08-439-814-3
3	24	100.0	1688	2	US-08-439-814-2
4	24	100.0	2090	2	US-08-439-814-1
5	17.2	71.7	601	4	US-09-949-016-70889
6	17.2	71.7	601	4	US-09-949-016-70890
7	17.2	71.7	13204	4	US-09-084-272-49
8	17.2	71.7	125536	4	US-09-949-016-14186
9	17.2	71.7	276687	4	US-09-949-016-13840
10	17	70.8	92	4	US-09-621-976-17500
11	17	70.8	103	4	US-09-621-976-17501
12	17	70.8	126	4	US-09-621-976-17502
13	17	70.8	137	4	US-09-621-976-17503
14	17	70.8	150	4	US-09-621-976-13989
15	17	70.8	169	4	US-09-621-976-11249
16	17	70.8	179	4	US-09-621-976-9575
17	16.8	70.0	26313	4	US-09-949-016-16117
18	16.8	70.0	81384	4	US-09-949-016-12422
19	16.6	69.2	406	4	US-09-621-976-14718
20	16.6	69.2	601	4	US-09-949-016-29459
21	16.6	69.2	601	4	US-09-949-016-153865
22	16.6	69.2	601	4	US-09-949-016-185733
23	16.6	69.2	601	4	US-09-949-016-195083
24	16.6	69.2	601	4	US-09-949-016-195084
25	16.6	69.2	1572	4	US-09-107-532A-495
26	16.6	69.2	24847	4	US-09-949-016-16056
27	16.6	69.2	25464	4	US-09-326-480A-4

28	16.6	69.2	28696	4	US-09-949-016-17054	Sequence 17054, A
29	16.6	69.2	28780	4	US-09-949-016-12335	Sequence 12335, A
30	16.6	69.2	40130	4	US-09-949-016-17275	Sequence 17275, A
31	16.6	69.2	142504	4	US-09-949-016-13693	Sequence 13693, A
32	16.6	69.2	142506	4	US-09-949-016-13474	Sequence 12474, A
33	16.6	69.2	248868	4	US-09-949-016-12614	Sequence 12614, A
34	16.6	69.2	250958	4	US-09-949-016-16061	Sequence 16061, A
35	16.6	69.2	260286	4	US-09-949-016-17037	Sequence 17037, A
36	16.6	69.2	260293	4	US-09-949-016-12106	Sequence 12106, A
37	16.6	69.2	1830121	4	US-09-557-884-1	Sequence 1, Appl
38	16.6	69.2	1830121	4	US-09-643-990A-1	Sequence 7, Appl
39	16.2	67.5	856	4	US-09-308-080-7	Sequence 1, Appl
40	16.2	67.5	861	4	US-09-308-080-1	Sequence 29, Appl
41	16.2	67.5	1503	4	US-09-184-418C-29	Sequence 3, Appl
42	16.2	67.5	8953	4	US-09-184-418C-3	Sequence 15728, A
43	16.2	67.5	41755	4	US-09-949-016-15728	Sequence 12569, A
44	16.2	67.5	200663	4	US-09-949-016-12569	Sequence 14445, A
45	16.2	67.5	203093	4	US-09-949-016-14445	

ALIGNMENTS

RESULT 1  
US-08-439-814-4/c  
Sequence 4, Application US/08439814  
Patent No. 5968735  
GENERAL INFORMATION:  
APPLICANT: STEIN, Urike  
APPLICANT: WALTHER, Wolfgang  
TITLE OF INVENTION: VECTOR FOR THE EXPRESSION OF  
TITLE OF INVENTION: THERAPY-RELEVANT GENES  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: NIKALDO, MARCELSTEIN, MURRAY & ORAM LLP  
STREET: 655 Fifteenth Street, N. W., Suite 330 G  
STREET: Street Lobby  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20005-5701  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/439, 814  
FILING DATE: 12-MAY-1995  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 514  
FILING DATE: 12-NOV-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: DE P 4238778.7  
FILING DATE: 12-NOV-1992  
APPLICATION NUMBER: DE PCT/DE93/01086  
FILING DATE: 10-NOV-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: KLESNER, Sharon N.  
REGISTRATION NUMBER: 36,335  
REFERENCE/DOCKET NUMBER: P1614-5015  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 202/638-5000  
TELEFAX: 202/638-4810  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.30B (EPO)  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: DE P4238778.7  
FILING DATE: 12-NOV-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: WO PCT/DE93/01086



2-16 3

FILED DATE: 10-NOV-1993  
 INFORMATION FOR SEQ ID NO: 4:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 568 base pairs  
 TYPE: nucleic acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: DNA (genomic)  
 US-08-439-814-4

Query Match 100.0%; Score 24; DB 2; Length 568;  
 Best Local Similarity 100.0%; Pred. No. 0.027;  
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CTTATGTAGACACGCTTTCAAG 24  
 DB 203 CTTATGTAGACACGCTTTCAAG 180

RESULT 2

US-08-439-814-3/c  
 Sequence 3, Application US/08439814  
 Patent No. 5968735  
 GENERAL INFORMATION:  
 APPLICANT: STEIN, Ulrike  
 APPLICANT: WALTHER, Wolfgang  
 TITLE OF INVENTION: VECTOR FOR THE EXPRESSION OF  
 TITLE OF INVENTION: THERAPY-RELEVANT GENES  
 NUMBER OF SEQUENCES: 7  
 CORRESPONDENCE ADDRESSES:  
 ADDRESSEE: NIKAI, MARMELSTEIN, MURRAY & ORAM LLP  
 STREET: 655 Fifteenth Street, N. W., Suite 330 G  
 STREET: Street Lobby  
 CITY: Washington  
 STATE: DC  
 COUNTRY: USA  
 ZIP: 20005-5701  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patent Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/439,814  
 FILING DATE: 12-MAY-1995  
 CLASSIFICATION: 514  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE P 4238778.7  
 FILING DATE: 12-NOV-1992  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE PCT/DE93/01086  
 FILING DATE: 10-NOV-1993  
 ATTORNEY/AGENT INFORMATION:  
 NAME: KLESNER, Sharon N.  
 REGISTRATION NUMBER: 36,335  
 REFERENCE/DOCKET NUMBER: P1614-5015  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 202/638-5000  
 TELEFAX: 202/638-4810  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patent Release #1.0, Version #1.30B (EPO)  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE P4238778.7  
 FILING DATE: 12-NOV-1992  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: WO PCT/DE93/01086  
 FILING DATE: 10-NOV-1993  
 INFORMATION FOR SEQ ID NO: 3:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 1318 base pairs

TYPE: nucleic acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: DNA (genomic)  
 US-08-439-814-3

Query Match 100.0%; Score 24; DB 2; Length 1318;  
 Best Local Similarity 100.0%; Pred. No. 0.031;  
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CTTATGTAGACACGCTTTCAAG 24  
 DB 953 CTTATGTAGACACGCTTTCAAG 930

RESULT 3

US-08-439-814-2/c  
 Sequence 2, Application US/08439814  
 Patent No. 5968735  
 GENERAL INFORMATION:  
 APPLICANT: STEIN, Ulrike  
 APPLICANT: WALTHER, Wolfgang  
 TITLE OF INVENTION: VECTOR FOR THE EXPRESSION OF  
 TITLE OF INVENTION: THERAPY-RELEVANT GENES  
 NUMBER OF SEQUENCES: 7  
 CORRESPONDENCE ADDRESSES:  
 ADDRESSEE: NIKAI, MARMELSTEIN, MURRAY & ORAM LLP  
 STREET: 655 Fifteenth Street, N. W., Suite 330 G  
 STREET: Street Lobby  
 CITY: Washington  
 STATE: DC  
 COUNTRY: USA  
 ZIP: 20005-5701  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patent Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/439,814  
 FILING DATE: 12-MAY-1995  
 CLASSIFICATION: 514  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE P 4238778.7  
 FILING DATE: 12-NOV-1992  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE PCT/DE93/01086  
 FILING DATE: 10-NOV-1993  
 ATTORNEY/AGENT INFORMATION:  
 NAME: KLESNER, Sharon N.  
 REGISTRATION NUMBER: 36,335  
 REFERENCE/DOCKET NUMBER: P1614-5015  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 202/638-5000  
 TELEFAX: 202/638-4810  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patent Release #1.0, Version #1.30B (EPO)  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: DE P4238778.7  
 FILING DATE: 12-NOV-1992  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: WO PCT/DE93/01086  
 FILING DATE: 10-NOV-1993  
 INFORMATION FOR SEQ ID NO: 2:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 1688 base pairs  
 TYPE: nucleic acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: DNA (genomic)

US-08-439-814-2

## Query Match

Best Local Similarity 100.0%; Score 24; DB 2; Length 1688;  
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CTTATGTAGACACGCTTTTCAAG 24

DB 1323 CTTATGTAGACACGCTTTTCAAG 1300

## RESULT 4

US-08-439-814-1/c

Sequence 1, Application US/08439814

Patent No. 5968735

GENERAL INFORMATION:

APPLICANT: STEIN, Ulrike

APPLICANT: WALTHER, Wolfgang

TITLE OF INVENTION: VECTOR FOR THE EXPRESSION OF

TITLE OF INVENTION: THERAPY-RELEVANT GENES

NUMBER OF SEQUENCES: 7

CORRESPONDENCE ADDRESS:

ADDRESSEE: NIKAI DO, MARCELSTEIN, MURRAY &amp; ORAM LLP

STREET: 655 Fifteenth Street, N. W., Suite 310 G

CITY: Washington

STATE: DC

COUNTRY: USA

ZIP: 20005-5701

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: 514

CLASSIFICATION: 514

FILING DATE: 12-MAY-1995

APPLICATION NUMBER: DE P 4238778.7

FILING DATE: 12-NOV-1992

APPLICATION NUMBER: DE PCT/DE93/01086

FILING DATE: 10-NOV-1993

REFERENCE/DOCKET NUMBER: P1614-5015

TELECOMMUNICATION INFORMATION:

TELEPHONE: 202/638-5000

TELEFAX: 202/638-4810

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30B (EPO)

APPLICATION NUMBER: DE P4238778.7

FILING DATE: 12-NOV-1992

APPLICATION NUMBER: WO PCT/DE93/01086

FILING DATE: 10-NOV-1993

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 2090 base pairs

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

US-08-439-814-1

Query Match 100.0%; Score 24; DB 2; Length 2090;  
Best Local Similarity 100.0%; Pred. No. 0.033;

Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CTTATGTAGACACGCTTTTCAAG 24

DB 1725 CTTATGTAGACACGCTTTTCAAG 1702

## RESULT 5

US-09-949-016-70889/c

Sequence 70889, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CLO01307

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/237,768

PRIOR FILING DATE: 2000-10-03

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 70889

LENGTH: 601

TYPE: DNA

ORGANISM: Human

US-09-949-016-70889

Query Match 71.7%; Score 17.2; DB 4; Length 601;  
Best Local Similarity 86.4%; Pred. No. 61;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 TTATGTAGACACGCTTTTCAAA 23

DB 315 TTATGTAGACACGCTTTTCAAA 294

## RESULT 6

US-09-949-016-70890/c

Sequence 70890, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CLO01307

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/237,768

PRIOR FILING DATE: 2000-10-03

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 70890

LENGTH: 601

TYPE: DNA

ORGANISM: Human

US-09-949-016-70890

Query Match 71.7%; Score 17.2; DB 4; Length 601;  
Best Local Similarity 86.4%; Pred. No. 61;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 TTATGTAGACACGCTTTTCAAA 23

DB 95 TTATGTAGACACGCTTTTCAAA 74